

ME08 Activity 6 - Networking

The image shows a Windows PowerShell terminal window with a dark background. The title bar at the top reads "Windows PowerShell". The terminal content is as follows:

At the top, there's a command prompt showing the current directory: `PS D:\Files\Documents\UP\2021-2\CoE 197\ME8_Containerization_and_Docker\5-volumes>`

The user runs `doc ker run --rm -d -e PING_TARGET=172.17.0.2 --name pinger delner/ping:1.0`. The output shows the container ID `3a79f28b8ac36c0e7aae523c4831c9405c110d593c15a30639606250595b245b`.

Then, the user runs `doc ker ps`, which displays a table of running containers:

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
3a79f28b8ac3	delner/ping:1.0	"sh -c 'ping \$PING..."	4 seconds ago	Up 3 seconds	
104633917dbf	delner/ping:1.0	"sh -c 'ping \$PING..."	About a minute ago	Up About a minute	

The user then runs `doc ker logs pinger`, which shows the output of the 'ping' command from the container:

```
PING 172.17.0.2 (172.17.0.2) 56(84) bytes of data.  
64 bytes from 172.17.0.2: icmp_seq=1 ttl=64 time=0.171 ms  
64 bytes from 172.17.0.2: icmp_seq=2 ttl=64 time=0.100 ms  
64 bytes from 172.17.0.2: icmp_seq=3 ttl=64 time=0.098 ms  
64 bytes from 172.17.0.2: icmp_seq=4 ttl=64 time=0.098 ms
```


The user then runs `doc ker logs dummy`, which shows the output of the 'ping' command from the 'dummy' container:

```
PING 172.17.0.2 (172.17.0.2) 56(84) bytes of data.  
64 bytes from 172.17.0.2: icmp_seq=1 ttl=64 time=0.168 ms  
64 bytes from 172.17.0.2: icmp_seq=2 ttl=64 time=0.053 ms  
64 bytes from 172.17.0.2: icmp_seq=3 ttl=64 time=0.068 ms  
64 bytes from 172.17.0.2: icmp_seq=4 ttl=64 time=0.068 ms  
64 bytes from 172.17.0.2: icmp_seq=5 ttl=64 time=0.052 ms  
64 bytes from 172.17.0.2: icmp_seq=6 ttl=64 time=0.061 ms  
64 bytes from 172.17.0.2: icmp_seq=7 ttl=64 time=0.048 ms  
64 bytes from 172.17.0.2: icmp_seq=8 ttl=64 time=0.055 ms  
64 bytes from 172.17.0.2: icmp_seq=9 ttl=64 time=0.058 ms  
64 bytes from 172.17.0.2: icmp_seq=10 ttl=64 time=0.077 ms  
64 bytes from 172.17.0.2: icmp_seq=11 ttl=64 time=0.058 ms
```

Ping and pinger

```
PS D:\Files\Documents\UP\2021-2\CoE 197\ME8_Containerization_and_Docker\5-volumes> doc
ker logs pinger
PING 172.17.0.2 (172.17.0.2) 56(84) bytes of data.
64 bytes from 172.17.0.2: icmp_seq=1 ttl=64 time=0.168 ms
64 bytes from 172.17.0.2: icmp_seq=2 ttl=64 time=0.053 ms
64 bytes from 172.17.0.2: icmp_seq=3 ttl=64 time=0.068 ms
64 bytes from 172.17.0.2: icmp_seq=4 ttl=64 time=0.068 ms
64 bytes from 172.17.0.2: icmp_seq=5 ttl=64 time=0.052 ms
64 bytes from 172.17.0.2: icmp_seq=6 ttl=64 time=0.061 ms
64 bytes from 172.17.0.2: icmp_seq=7 ttl=64 time=0.048 ms
64 bytes from 172.17.0.2: icmp_seq=8 ttl=64 time=0.055 ms
64 bytes from 172.17.0.2: icmp_seq=9 ttl=64 time=0.058 ms
64 bytes from 172.17.0.2: icmp_seq=10 ttl=64 time=0.077 ms
64 bytes from 172.17.0.2: icmp_seq=11 ttl=64 time=0.058 ms
64 bytes from 172.17.0.2: icmp_seq=12 ttl=64 time=0.079 ms
64 bytes from 172.17.0.2: icmp_seq=13 ttl=64 time=0.053 ms
64 bytes from 172.17.0.2: icmp_seq=14 ttl=64 time=0.093 ms
64 bytes from 172.17.0.2: icmp_seq=15 ttl=64 time=0.055 ms
64 bytes from 172.17.0.2: icmp_seq=16 ttl=64 time=0.058 ms
64 bytes from 172.17.0.2: icmp_seq=17 ttl=64 time=0.082 ms
64 bytes from 172.17.0.2: icmp_seq=18 ttl=64 time=0.063 ms
64 bytes from 172.17.0.2: icmp_seq=19 ttl=64 time=0.090 ms
64 bytes from 172.17.0.2: icmp_seq=20 ttl=64 time=0.078 ms
64 bytes from 172.17.0.2: icmp_seq=21 ttl=64 time=0.193 ms
```

Skynet ping and pinger

```

PS D:\Files\Documents\UP\2021-2\CoE 197\ME8_Containerization_and_Docker\5-volumes> docker run --rm -d --name widgetdb --network skynet -e POSTGRES_PASSWORD=pass -p 5432 postgres
5baa69f31b290040dbc678ee9da478d89171d12e0c1281d1ec2309a3ff79aa6b
PS D:\Files\Documents\UP\2021-2\CoE 197\ME8_Containerization_and_Docker\5-volumes> docker run --rm -d --name gadgetdb --network skynet -e POSTGRES_PASSWORD=pass -p 5432 postgres
880b1921e57e749a59f2d9e48cb43f03a9ed4803a9558551ffddce994f618b48
PS D:\Files\Documents\UP\2021-2\CoE 197\ME8_Containerization_and_Docker\5-volumes> docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS
880b1921e57e   postgres      "docker-entrypoint.s..." 5 seconds ago  Up 3 seconds  0.0.0:50879->5432/tcp
5baa69f31b29   postgres      "docker-entrypoint.s..." 11 seconds ago Up 8 seconds  0.0.0:50878->5432/tcp
PS D:\Files\Documents\UP\2021-2\CoE 197\ME8_Containerization_and_Docker\5-volumes> docker exec -it widgetdb /bin/bash
root@5baa69f31b29:/# psql -U postgres -h gadgetdb
Password for user postgres:
psql: error: FATAL: password authentication failed for user "postgres"
root@5baa69f31b29:/# psql -U postgres -h gadgetdb
Password for user postgres:
psql (13.3 (Debian 13.3-1.pgdg100+1))
Type "help" for help.

postgres=# \q
root@5baa69f31b29:/# exit
exit

```

Connecting between containers in a network

```

root@ddbaba011457:/# exit
exit
PS D:\Files\Documents\UP\2021-2\CoE 197\ME8_Containerization_and_Docker\5-volumes> doc
ker run --rm -d --name widgetdb --network skynet -e POSTGRES_PASSWORD=pass -p 5432:543
2 postgres
docker: Error response from daemon: Conflict. The container name "/widgetdb" is alread
y in use by container "ddbaba01145769d09af684b0a991d7232676070e710048cff162cffa5e42426
f". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.
PS D:\Files\Documents\UP\2021-2\CoE 197\ME8_Containerization_and_Docker\5-volumes> doc
ker stop widgetdb
widgetdb
PS D:\Files\Documents\UP\2021-2\CoE 197\ME8_Containerization_and_Docker\5-volumes> doc
ker run --rm -d --name widgetdb --network skynet -e POSTGRES_PASSWORD=pass -p 5432:543
2 postgres
983f4c949a9b9e14e7a8c1e2926e055936ea2fe05a6a9c68a3a2266522204fe9
PS D:\Files\Documents\UP\2021-2\CoE 197\ME8_Containerization_and_Docker\5-volumes> doc
ker exec -it
"docker exec" requires at least 2 arguments.
See 'docker exec --help'.

Usage:  docker exec [OPTIONS] CONTAINER COMMAND [ARG...]

Run a command in a running container
PS D:\Files\Documents\UP\2021-2\CoE 197\ME8_Containerization_and_Docker\5-volumes> doc
ker exec -it widgetdb /bin/bash
root@983f4c949a9b:/# psql -U postgres -h localhost
psql (13.3 (Debian 13.3-1.pgdg100+1))
Type "help" for help.

postgres=# \q
root@983f4c949a9b:/# exit
exit

```

Binding port to host